2012

Course : B.C.A (2nd YEAR)

Paper : 3

Time : 3 hours

Full Marks : 75

Candidates are required to give their answers in their own words as far as practicable.

The questions are of equal value.

Answer any five questions, selecting at least one from each group.

GROUP –A

1. **What is Network Topology ? Explain the different types of network topologies with the help of diagram.**
2. **What do you mean be communication channel ? Explain any two channels with properties each.**
3. **Discuss the architecture of OSI model ? Explain the functions of each layer in OSI model.**
4. **State and prove De –Morgan's theorem in Boolean algebra.**

Continue

5. **Write short notes on any three of the following :**

   (a) Protocols

   (b) E-mail

   (c) Logic gates

   (d) Dial – up connectivity

Group- B

6. **Explain the structure of a C-program with its major elements.**

7. **What are the different data types available in C-language ?**

   How can you perform type conversion in expression ?

8. **(a) What is loop control ? Differentiate between while ( ) and do- while ( ) loop controls.**

   (b) Write a C-program to find the sum of N-natural Numbers using for ( ) loop.

9. **(a) What is recursion ? Write a recursive function to find factorial of n.**

   (b) Differentiate between structure and union.

Continue

10. Write short notes on any three of the following :

(a) String

(b) Array

(c) Dynamic memory allocation

(d) File handling functions.

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Continue for Hons. paper - 4

2012

Course : B.C.A (2nd YEAR)

Paper : 4

Time : 3 hours

Full Marks : 75

Candidates are required to give their answers in their own words as far as practicable.

The questions are of equal value.

Answer any five questions.

1. **What is data structure ? Explain the different operations to be performed on data structure .**
2. **How do you implement a stack in 'C' ? Write algorithms to perform push and pop operations on a stack.**
3. **What is circular queue ? What are its advantages ? Write the algorithms for the insertion and deletion operations performed on the circular queue.**
4. **Evaluate the following postfix expressions :**

   (i) ABC* + given A = 12.5, B=6.35, C=5.75
   (ii) AB?C* given A = 3, B = 2, C = 8

continue

(iii) AB + CD - * given A = 1 , B = 2, C = 3, D = 4

5. What are the different types of binary trees ? Discuss the array representation of a binary tree.
6. Explain the properties of a B-tree ? Write the algorithm for insertion in a B – tree.
7. Describe the complexity analysis of sequential searching. Write the algorithm to find the desired element in an array using sequential searching technique.
8. Describe the efficiency of Quick - sort algorithm. Write a quick sort algorithm to arrange a list of integers.
9. Explain the different representations of a graph data structure.
10. Write short notes on any three of the following :

(a) Abstract data type
(b) Dequeue
(c) Di –graph
(d) Recursion
(e) List

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Continue for Composition. paper .

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Course : B.C.A. (2nd YEAR)

Composition : Hindi

Time : 3 hours

Full Marks : 100

Candidates are required to give their answers in

their own words as far as practicable.

परीक्षार्थी यथासंभव अपने शब्दों में ही उत्तर दे .

The figures in the margin indicate full marks .

उपांत के अंक पूर्णांक के घोतक है .

निर्देशानुसार प्रशनो के उत्तर दीजिए .

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Continue for Subsidiray paper